NOVEMBER/DECEMBER 2024

23USEL23 — HOME APPLIANCES (SEC II)

Time : Three hours Maximum : 75 marks

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SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define alternating current (AC).
2. Write the functions of a transformer.
3. Expand the terms MCB and ELCB.
4. Write the use of UPS.
5. What is Joule heating effect?
6. Define electrical induction.
7. What is the SI unit of luminance?
8. Expand the terms CFL and LED.
9. What is the principle of electromagnetic induction??
10. State the function of an induction motor.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Briefly explain functions of the passive components with diagram?

Or

(b) Explicate current, voltage and power.

12. (a) Discuss the single phase and three phase electrical connections.

Or

(b) Express the need of electrical earthing.

13. (a) How electric water heater works?

Or

(b) Explain the working of microwave oven.

14. (a) Write a note on energy efficiency rating in electrical appliances.

Or

(b) How LED electric bulb works?

15. (a) State and explain Faraday's law of electromagnetic induction.

Or

(b) Explain the theory and working of an induction motor.

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SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Describe the construction and working of transformers.

17. Illustrate with diagram, the construction and working of an inverter.

18. Explain the theory and working of microwave oven.

19. Demonstrate IS and IE codes.

20. Describe the theory and working of a ceiling fan.

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